

### **DETAILED ACTION**

This office action is in response to the amendment of July 11, 2008. Each of the applicant's arguments have been considered and addressed in making the below rejections and/or objections.

#### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 69, 19-21, 26-28, 30, 32, 33, 34, 48, 49, 56, 58 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Centers (USPN 6,471,485, hereafter Centers '486) in view of Culp III et al (USPN 5, 975,854, hereafter Culp).

Centers '486 discloses a compressor system comprising compressor(s) (1002) and an electronic control system (1004) that is analogous to the claimed control block. The device includes a motor (100) and a shell/housing (not enumerated). The control block includes a microprocessor (col. 5 line 67) and there is memory (Fig. 5B and the first two full paragraphs of col. 19). The control block (1004) is in communication with the compressor (1002). Multiple compressors (1002) can be controlled at the same time, in which case multiple electronic control systems are linked via network in a peer-to-peer configuration, see abstract. A remote computer used for monitoring, controlling, downloading firmware and software, and communicating compressor operation data constitutes the system master. As set forth at col. 25 line 42 through col. 26 line 27 the system master is in communication with the electronic control system and is operative to receive and send stored compressor configuration information to and from the control block. It is obvious that the system master initializes the compressor system for a specific use and is therefore capable of performing the desired result or method step set forth in claim 32. The random access memory chips (510) are used for storage of operating data, i.e. compressor configuration information, history data, and parameter calculation results, see col. 19, lines 33-37. All operating parameters, service information, shut down records, sensor input information (including temperature and pressure data), are transmitted from the electronic control system (1004) to the system master computer. All of the stored operating parameters of the electronic control system (1004) can be modified by the system master, see col. 15 lines 5-17 which sets forth that the remote controller accesses all information of the electronic control system. It is

clear that the compressor identification data is stored since Centers '486 at col. 6 line 66 through col. 7 lines 37-45 make reference to the compressor model. Event history data is also stored for a variety of conditions (for example, col. 7 lines 8-13 or col. 9 lines 57 and 58 where the number of cycles per minute are noted). Cycle time and number data (col. 9 lines 49-65) and application data such as end user pressures and temperatures (col. 14 lines 27-36) are all stored. At col. 6 lines 66 and 67 temperature limits are set forth and at col. 4 lines 33-52 pressure limits are set forth.

Centers '486 does not specifically state that the system master makes request to the control block for an image containing the noted information or set forth that the modified or new image is sent back to the control block and stored in the original location within the memory. Centers '486 also does not disclose that there is a vibration sensor or that the compressor has a shell and the control block is mounted on the shell.

Centers '486 does set forth that a system master, such as 808 in Fig. 8, can issue commands to the control blocks of the individual compressors and one of ordinary skill would understand these commands to be a "request" or else be the equivalent of a request. Centers '486 also makes clear throughout the disclosure that the system master has access to all the data in the memory and can receive and send copies of it. The paragraph spanning columns 14 and 15 also set forth that the modem permits the system master (i.e. the remote PC) to connect with and monitor the control block, to send and receive data from the control block and access all operating parameter service information etc. and also the sensor information. At the time of the invention it

thus would have been obvious to simply receive the full image of the data at the system master and return it to the memory after modification and to store the new image of the data in the same location within the memory as the corresponding old/previous version of the data. The transmission of a single image containing the data would minimize the number of operations and ensure that the data represents the conditions at a single point in time. This placement of the new image in the location of the old would allow the system to continue to operate without requiring the control block to reassign new memory addressed throughout the controller software for the location of each piece of data within the memory.

Culp teaches of a compressor (10) with a protection module (86), which is analogous to the claimed control block. The protection module includes a vibration sensor and control circuits (see Figs. 4 and 7) and is mounted to the shell. Therefore at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the Centers '486 device by mounting the control block and vibration sensors of Culp on the shell in order to integrate the unit and create a smaller footprint.

With respect to claims 19 and 20, the control system uses pressure and temperature sensors, among others, to detect or predict actual shutdown conditions based on the operating state of the compressor (1002). These signals are transmitted to the system master, and are indicative of an operating characteristic of the compressor, see col. 9 lines 21-26.

With respect to claim 27 there is no explicit teaching of the control block/control system (1004), including a gateway however in col. 13 line 65 and col. 14 lines 24-28, the control system (1004) includes a network interface connection (2013), among its multiple circuit boards, for connection of the control system and the compressor to the network, the system master and the other compressors. This data interface constitutes a gateway board. Centers '486 includes a plurality of connectors (J1, J2, J8, J11) and microprocessor boards (500), enunciator boards (600) and ARCnet peer-to-peer network communication interface circuits, which constitute communication interfaces or gateways.

With respect to claims 56, 58 and 66 and the recitation of the types of data (for example compressor identification data) or to recitation of a specific data element (for example refrigerant data) as noted above Centers '486 discloses the limitation as claimed. However, it is additionally noted that the reference to the type of data is directed to non-functional descriptive material and does not alter how the data is transmitted, received or stored between the control block and the system master. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d, 1031 (Fed. Cir. 1994).

With regards to claims 19 and 30 and the limitations following the recitation of "operable to..." in each of those claims the examiner notes that the limitations following this phrase sets forth a limitation or action which the control block must be capable of doing and the Centers '486 controller is capable of the claimed action.

### ***Response to Arguments***

Applicant's arguments with respect to claims 69, 19-21, 26-38, 30, 32-34, 48, 56, 58 and 66 have been considered but are moot in view of the new ground(s) of rejection. The applicant's arguments have been considered but are not persuasive. As detailed in the above rejection Centers '486 makes clear that the noted data is stored in the memory associated with the compressor and that the system master has access to all of this data and can command (i.e. request) that this data be transmitted from the memory to the system master. Furthermore, Centers '486 makes clear that once the data is transmitted to the system master it can be modified and sent back to the memory for storage. For the reasons set forth in the above rejection the examiner believes that the receiving and transmitting of the data as an image (containing all the noted data) would be obvious for the purposes of simplification of the process.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Centers '590 discloses a similar compressor remote communication and control system having similar disclosure to Centers '486.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles G. Freay whose telephone number is 571-272-4827. The examiner can normally be reached on Monday through Friday 8:30 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles G Freay/  
Primary Examiner  
Art Unit 3746

CGF  
October 18, 2008